# School Name Hamilton High School Teacher Nipar D-216

## PURPOSE

Science is a hands-on laboratory class. You will be doing many laboratory activi- ties which require the use of hazardous chemicals. Safety in the science classroom is the #1 priority for students, teachers, and parents. To ensure a safe science classroom, a list of rules has been developed and pro- vided to you in this student safety contract. These rules must be followed at all times. Two copies of the contract are provided. One copy must be signed by both you and a par- ent or guardian before you can participate in the laboratory. The second copy is to be kept in your science notebook as a constant reminder of the safety rules.

## GENERAL RULES

1. Conduct yourself in a responsible man- ner at all times in the laboratory.
2. Follow all written and verbal instruc- tions carefully. If you do not understand a direction or part of a procedure, ask the instructor before proceeding.
3. Never work alone. No student may work in the laboratory without an instructor present.
4. When first entering a science room, do not touch any equipment, chemicals, or other materials in the laboratory area until you are instructed to do so.
5. Do not eat food, drink beverages, or chew gum in the laboratory. Do not use laboratory glassware as containers for food or beverages.
6. Perform only those experiments autho- rized by the instructor. Never do anything in the laboratory that is not called for in the laboratory procedures or by your instructor. Carefully follow all instruc- tions, both written and oral. Unauthorized experiments are prohibited.
7. Be prepared for your work in the labo- ratory. Read all procedures thoroughly before entering the laboratory.
8. Never fool around in the laboratory. Horseplay, practical jokes, and pranks are dangerous and prohibited.
9. Observe good housekeeping practices. Work areas should be kept clean and tidy at all times. Bring only your laboratory instructions, worksheets, and/or reports to the work area. Other materials (books, purses, backpacks, etc.) should be stored in the classroom area.
10. Keep aisles clear.
11. Know the locations and operating proce- dures, where appropriate, for all safety equipment including first aid kit, eye- wash station, safety shower, fire extin- guisher, and fire blanket. Know where the fire alarm and exits are located.
12. Always work in a well-ventilated area. Use the fume hood when working with vola- tile substances or poisonous vapors. Never place your head into the fume hood.
13. Be alert and proceed with caution at all times in the laboratory. Notify the instructor immediately of any unsafe conditions you observe.
14. Dispose of all chemical waste properly. Never mix chemicals in sink drains. Sinks are to be used only for water and those solutions designated by the instruc- tor. Solid chemicals, metals, matches, filter paper, and all other insoluble mate- rials are to be disposed of in the proper waste containers, not in the sink. Check the label of all waste containers twice before adding your chemical waste to the container.
15. Labels and equipment instructions must be read carefully before use. Set up and use the prescribed apparatus as directed in the laboratory instructions or by your instructor.
16. Keep hands away from face, eyes, mouth and body while using chemicals or pre- served specimens. Wash your hands with soap and water after performing all experiments. Clean all work surfaces and apparatus at the end of the experi- ment. Return all equipment clean and in working order to the proper storage area.
17. Experiments must be personally moni- tored at all times. You will be assigned a laboratory station at which to work. Do not wander around the room, distract other students, or interfere with the labo- ratory experiments of others.
18. Students are never permitted in the science storage rooms or preparation areas unless given specific permission by their instructor.
19. Know what to do if there is a fire drill during a laboratory period; containers must be closed, gas valves turned off, fume hoods turned off, and any electrical equipment turned off.
20. If you have a medical condition (e.g., allergies, pregnancy, etc.), check with your physician prior to working in lab.

## CLOTHING

1. Any time chemicals, heat, or glassware are used, students will wear laboratory goggles. There will be no exceptions to this rule!
2. Contact lenses may be worn provided adequate face and eye protection is pro- vided by specially marked, non-vented safety goggles. The instructor should know which students are wearing con- tact lenses in the event of eye exposure to hazardous chemicals.
3. Dress properly for lab activities. Long hair, dangling jewelry, and loose or baggy clothing are hazardous. Long hair must be tied back and dangling jewelry and loose or baggy clothing must be secured. Shoes must completely cover the foot. No sandals allowed.
4. Lab aprons have been provided for your use and should be worn during labora- tory activities as instructed.

## ACCIDENTS AND INJURIES

1. Report any accident (spill, breakage, etc.) or injury (cut, burn, etc.) to the instructor immediately, no matter how trivial it may appear.
2. If you or your lab partner are hurt, imme- diately get the instructor’s attention.
3. If a chemical splashes in your eye(s) or on your skin, immediately flush with running water from the eyewash station or safety shower or lab sink. Notify the instructor immediately.

## HANDLING CHEMICALS

1. All chemicals in the laboratory are to be considered dangerous. Do not touch, taste, or smell any chemicals unless spe- cifically instructed to do so. The proper technique for wafting chemical vapors will be demonstrated to you.
2. Check the label on chemical bottles twice before removing any of the con- tents. Take only as much chemical as you need.
3. Never return unused chemicals to their original containers.
4. Never use mouth suction to fill a pipet. Use a rubber bulb or pipet pump.
5. When transferring reagents from one container to another, hold the containers away from your body.
6. Acids must be handled with extreme care. You will be shown the proper method for diluting strong acids. Always add acid to water, swirl or stir the solu- tion and be careful of the heat produced, particularly with sulfuric acid.
7. Handle flammable hazardous liquids over a pan to contain spills. Never dispense flammable liquids anywhere near an open flame or source of heat.
8. Never remove chemicals or other materi- als from the laboratory area.
9. Take great care when transporting acids and other chemicals from one part of the laboratory to another. Hold them securely and walk carefully.

## HANDLING GLASSWARE AND EQUIPMENT

1. Never handle broken glass with your bare hands. Use a brush and dustpan to clean up broken glass. Place broken or waste glassware in the designated glass disposal container.
2. Fill wash bottles only with distilled water and use only as intended, e.g., rins- ing glassware and equipment, or adding water to a container.
3. When removing an electrical plug from its socket, grasp the plug, not the elec- trical cord. Hands must be completely dry before touching an electrical switch, plug, or outlet.
4. Examine glassware before each use. Never use chipped or cracked glassware. Never use dirty glassware.
5. Report damaged electrical equipment immediately. Look for things such as loose connections and exposed wires. Do not use damaged electrical equipment.

42. If you do not understand how to use a piece of equipment, ask the instructor for help.

1. Do not immerse hot glassware in cold water; it may shatter.

## HEATING SUBSTANCES

1. Exercise extreme caution when using a gas burner. Take care that hair, clothing and hands are a safe distance from the flame at all times. Do not put any sub- stance into the flame unless specifically instructed to do so. Never reach over an exposed flame. Light gas (or alcohol) burners only as instructed by the teacher.
2. Never leave a lit burner unattended. Never leave anything that is being heated or is visibly reacting unattended. Always turn the burner or hot plate off when not in use.
3. You will be instructed in the proper method of heating and boiling liquids in test tubes. Do not point the open end of a test tube being heated at yourself or anyone else.
4. Heated metals and glass remain very hot for a long time. They should be set aside to cool and picked up with caution. Use tongs or heat-protective gloves if necessary.
5. Never look into a container that is being heated.
6. Do not place hot apparatus directly on the laboratory desk. Always use an insu- lating pad. Allow plenty of time for hot apparatus to cool before touching it.
7. Hot and cold glass have the same visual appearance. Determine if an object is hot by bringing the back of your hand close to it prior to grasping it.

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